Acupuncture Research Challenges

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THE NATIONAL CANCER INSTITUTE'S (NCI) Office of Cancer Complementary and Alternative Medicine (OCCAM) and the National Center for Complementary and Integrative Health presented a workshop entitled, "Translating Fundamental Science of Acupuncture into Clinical Practice for Cancer Symptom Management, Pain, and Substance Abuse." This was held on the National Institutes of Health (NIH) Bethesda campus on February 11–12, 2019. The vast majority of the workshop dealt with various types of mechanisms and pathways.

Specific effects of the interventions:

- Neural mechanisms and pathways
 - Somatosensory systems in brain-body connections
- Extra-neural mechanisms of acupuncture
 - Neuroinflammation mechanisms and lymphatics
 - Biophysical model/connective tissues

Mechanistic clinical studies

- Chronic pain, cancer related fatigue
- Clinical hormonal regulation

Non-specific effects of the interventions:

- Genomics and epigenomics of placebo effects
- Neuroimaging of placebo effects of acupuncture
- Social concordance effects of acupuncture

Overcoming barriers for clinical research of acupuncture:

- Clinical observations/case studies
- Observational clinical study; reducing opioid prescription

Challenges of specific vs. non-specific effects in any clinical trials, and why for certain indications the non-specific effects are important and relevant

NIH resources to support acupuncture research:

- NCI clinical trial resources
- HEAL [Helping to End Addiction Long-Term] initiatives pain basic resources and clinical trial networks
- Re-define the scope and recommendations
- Key barriers and building blocks for clinical trial studies of acupuncture—Key issues:
 - Blinding; Specific vs. non-specific effects

Acupuncture mechanisms were a very significant part of this workshop as well as the conducting of clinical trials. It is important to the acupuncture community that the elucidation of mechanisms associated with acupuncture further reinforces that we are dealing not with phenomena effects, but actual physiological manifestations produced by the acupuncture needle placed on presumable acupuncture points on meridians. We still need to better understand about the basic structure of the acupuncture "network" as we gain more laboratory tools sensitive to the underlying biophysical reactions. Of course, one should

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realize that these mechanistic observations are a direct result of needles being specifically placed. It would seem that we should not lose sight of understanding and putting into evidence the existence or not of an acupuncture “network” advocated by the ancients. It would seem to me that the electrical properties of acupuncture should be the basis of more invested research. This electrical activity that appears inherent to the system may yield substantial clues to further our understanding.

I was invited to speak at this workshop about overcoming the barriers for acupuncture research. There are many barriers to overcome. Just to name a few: poor research methods, technical deficiencies, unrealistic hypothesis, minimal motivation, financial constraints, etc. The choice of research should challenge the interest of the clinician and have future prospects to benefit the patient. Most important, barriers can be overcome and reconfigured as challenges and opportunities.

—Richard C. Niemtzow, MD, PhD, MPH
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